

# Abbaye Traductions

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## CERTIFICATION OF TRANSLATION

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declares:

- 1 That I know well both French and English languages;
- 2 That I translated the attached document identified as: TT08 25/09/96

### PROCEDE DE SELECTION D'UN ENREGISTREMENT SUR UN SYSTEME NUMERIQUE DE REPRODUCTION AUDIOVISUEL ET SYSTEME POUR MISE EN OEUVRE DU PROCEDE

from French to English

3 The attached English translation is a true and correct translation of the document attached thereto to the best of my knowledge and belief; and

4. That all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under USC 18 1001, and that such false statements may jeopardize the validity of the application or any patent issuing thereon.

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METHOD FOR SELECTING A RECORDING ON A DIGITAL AUDIOVISUAL  
PLAYBACK SYSTEM AND SYSTEM FOR IMPLEMENTING THE METHOD

The present invention relates to a method for selecting a recording on a digital audiovisual playback system with a touchscreen and to the system for implementing this method. Such audiovisual playback systems are generally encountered in cafes or pubs. This type of system in fact comprises a sound playback machine usually called a jukebox associated with a monitor providing the viewing of video images or video clips. For this, the jukebox is equipped with a video compact disk player and with a changer of video compact disks and includes preselection buttons for marking the titles of pieces of music, the selection of which is proposed. Payment of an adequate fee followed by one or several preselections allows the system to be triggered with automatic loading, in the playback unit, of the disk on which the selected piece figures, whereby the desired audiovisual playback may then start.

These systems, although enabling an accurate and good quality playback, nevertheless have serious drawbacks. Thus, a first drawback relates to the

necessary volume for the disk changer, which therefore implies that the system is of large dimensions and therefore cumbersome. Also, systems which resort to mainly mechanical equipment using sophisticated techniques have significant failure rates, which is another drawback. Finally, it is very seldom that all the tunes of a disk be regularly listened to, even certain of them are practically never listened to, but however they cannot be eliminated for all that. Another drawback is due to the fact that the companies operating and distributing such systems introduce a limited number of identical disks into the distribution network and impose a certain turnover for their clients, which sometimes involves an unpleasant waiting period for the latter when a disk is not available.

On the other hand, computerized jukeboxes are known from the Patent Application PCT/WO 93 184 65, which, via a telecommunication network and a modem connecting the jukebox to the network, enable digitized information to be received, forming songs or pieces of music, and downloaded in a mass storage of the jukebox. The communications system is also used for downloading representative files of digitized graphical information, whereby the songs and graphical files are compressed before their being sent on the network. The processor of the jukebox then utilizes these files by decompressing them and sending the graphical data to the video circuit, and the song data to the audio circuit.

However, the processor also handles the man-machine interfaces and the handling of these various items is performed sequentially, by displaying the illustrative graphical images of the song, then by responding to the

actuation of the keys by the user and then by finding out whether the user has paid the desired amount, and finally, when the desired amount has been paid, by depositing the selection in a queue for its subsequent  
5 execution. Moreover, this system may only operate by first displaying the graphical images and then launching the execution of the song as the processor, according to the logical diagrams, cannot execute two tasks at the same time

10 Actuation of the keys by a user requires training, is a source of errors, and further requires a relatively long selection time.

The object of the present invention is to provide a method for selecting a recording which is user-friendly  
15 and may easily be used by a novice.

This object is achieved by the fact that the method for selecting a recording on an audiovisual playback system consists of displaying a plurality of windows on a screen, of sending to each of these windows, the  
20 illustrative information of an image of the album jackets associated with each window, the corresponding musical recording of which is stored in the mass storage of the playback system by selecting the data required for the viewing and that each area of a window is associated  
25 through the interface software of the touchscreen, with the information storage addresses of the database concerning the image of the album jacket, the album of which is represented in the window touched by the user.

According to another feature, a light touch of one  
30 of the windows causes the corresponding album jacket to be displayed with the various titles which are selectable in this album, as well as a banner including several

graphical display pads in which are displayed the images of the album jackets of the same singer available on the audiovisual playback system.

According to another feature, the banner or an area  
5 of the screen includes arrows at each end in order to scroll, in one direction or the other, the other images of the album jackets which cannot be viewed in the windows or in the displayed pads.

According to another feature, the window area  
10 including the plurality of windows enables an album jacket to be displayed in each window and a window area including illustrations of the selection criteria may be associated therewith, which enable the user by lightly touching the screen to apply the displayed selection  
15 criterion, as the searching criterion on the system's database

According to another feature, the selection criterion is formed of the different last decades.

According to another feature, the selection  
20 criterion is formed by the category.

According to another feature, the selection criterion is formed by an index.

Another object of the invention is to provide an audiovisual playback system enabling the method to be  
25 implemented.

This object is achieved by the fact that the elaborated audiovisual playback system around a microprocessor device associated with a payment mean and mainly including mass storage means for storing i.e. in a  
30 compressed digital format, the visual and sound recordings to be utilized on the one hand, associated via interfaces with digital viewing means and sound playback

digital means on the other hand, wherein a video monitor is associated with a touchscreen itself associated with an interface program in order to react to the contact of a user on the touchscreen, to express these contacts for the operating system as mouse events which trigger, via a tool and integrated service library, the change in the execution of one of the modules of the interface program, characterized in that each display area of the video monitor associated with the touchscreen, is associated with a database search criterion for audio or visual representation data corresponding to the information displayed on the screen.

According to another feature, the search criterion is the selection of a certain number of albums corresponding to the number of viewable windows on the screen and to the associated graphical information.

According to another feature, scanning of the database is performed per increment of the size of the number of viewable windows on the selection screen.

The selection criterion corresponds to the category.

The selection criterion corresponds to the type of music.

Other advantages and features of the present invention will become apparent upon reading the following description, made with reference to the appended drawings, given as an illustrative but non-limiting example of an embodiment of the invention, wherein:

Fig. 1 represents an electrical diagram of the equipment forming the invention;

Fig. 2 represents a flow chart showing the modules of specific services of a task and handled by means of a multitask operating system, wherein all the modules are

included in a library stored in the storage means;

Fig. 3 represents the organization of the multitask system handling all the hardware and software means;

Fig. 4 represents a logical diagram describing the operation of the multitask control system;

Fig. 5 represents the logical diagram checking for activity of the tasks;

Fig. 6 represents the logical diagram for the queuing of the selection;

Fig. 7 represents the database organization diagram;

Fig. 8 represents the graphical display obtained when the audiovisual playback system plays a selected recording;

Fig. 9 represents a graphical display example corresponding to a first embodiment of the selection menu;

Fig. 10 represents the graphical display corresponding to a second validation mode of the selection menu.

Preferably, but however in a non-limiting way, the audiovisual playback system uses the hardware components listed and referenced hereafter.

The central processing unit (1) with a microprocessor is a high performance PC compatible system, upon its implementation, the selection fell on an INTEL 80486 DX/2 type system which has the following storage means and characteristics:

- compatibility with the local Vesa bus,
- cache memory of the processor: 256 kB,
- random access memory: self-powered RAM of 32 MB or more,
- serial and parallel high performance ports.

- graphics adapter of the SVGA type with a microprocessor,

- SCSI/2 bus controller,

Any other central processing unit having equivalent  
5 or higher performances may be used in the invention.

This central processing unit controls and handles a sound control circuit (5), a telecommunications control circuit (4), an input control circuit (3), a mass storage control circuit (2), a circuit (6) for controlling the  
10 viewing means. The viewing means primarily consist of a non-interlaced flat screen video monitor (62), for example of the SVGA type with high resolution and low radiation. This is the monitor which is used for playing back images (for example, the covers of albums of the  
15 musical selection), graphics or video clips.

The mass storage means (21) which uses high speed and large capacity hard disks, are associated with storage means already present in the microprocessor device. These means are used for storing compressed  
20 digitized audiovisual information.

A high speed telecommunications modem (41) of at least 28.8 Kbps, or any other telecommunications equipment associated with other telecommunications media is integrated in order to allow linking with an  
25 audiovisual information distribution network under the control of a central server.

For playing back sound information from musical selections, the system includes loudspeakers (54) receiving the signal from a tuner amplifier (53)  
30 connected to the electronic circuit (5) of the music synthesizer type, provided for supporting a large number of input sources while providing an audio output with CD



type quality (compact disk), such as for example the microprocessor multimedia audio adapter of the "Sound Blaster" SBP32ANE card type from Creative Labs Inc. on which two memory buffers (56, 57) are added for the purpose explained subsequently.

Similarly, the circuit for controlling the viewing means also includes two buffer memories (66, 67) for the purpose explained subsequently.

A thermally regulated and ventilated 240 Watt power supply delivers power to the system. This power supply is protected against overcurrents and overshoots.

The audiovisual playback system handles, via its input controller circuit (3), an "Intelli Touch" touch screen (33) from Elo Touch Systems Inc., which includes a covering glass panel which uses "surface acoustic wave technology" as well as an AT type bus controller. This touchscreen, enables miscellaneous selection information to be used by the customers, as well as management control and monitoring information to be used by the operator or the owner of the system after their display on the video monitor (62) or the screen of a television set (61). It is also used for maintenance purposes combined with an external keyboard (34) which may be connected to the system which has a keyboard connector for this purpose, under control of a key lock (32) through the interface circuit (3).

The input circuit (3) also interfaces with the system, through a remote control set (31) for example consisting of:

- an infrared remote control from Mind Path Technologies Inc., a transmitter which has 15 control buttons for the microprocessor system and 8 control

buttons for the projection device;

- an infrared receiver with a serial adapter for Mind Path Technologies Inc.

A device for paying fees (35) from National  
5 Rejectors Inc., is also connected to the input interface circuit (3). Any other device may also be used which accepts any payment means, coins, bank notes, tokens, magnetic, chip cards or any combination of payment means.

A steel chassis or frame is further provided with  
10 customizable external trims for accommodating the system.

In addition to these components, a wireless  
microphone (55) is connected to the sound controller (5),  
which enables the latter to be transformed into a  
powerful announcement and information system for the  
15 public or also into a karaoke machine. Similarly, a remote control system allows the manager, for example from behind the bar, to access and check various controls such as:

- the on/off control of the microphone;
- 20 - the mute control of the loud speakers;
- the sound volume control command;
- the command for cancelling the musical selection which is being played.

Two buffers (56, 57) are associated with the sound  
25 controller circuit (5) in order to be able to store, each alternately, information corresponding to at least a quarter of a second of sound. Similarly, two buffers (66, 67) are associated with the video controller circuit (6) each alternately capable of storing at least a tenth of a  
30 second of images. Finally, a respective buffer (46, 36, 26) is associated with each of the communications controller (4), input interface (3) and storage (2)

circuits.

The operating system software was developed around a tool and service library amply aimed at the audiovisual field in a multimedia world. This library advantageously  
5 includes an effective multitask operating system which efficiently allows multiple code fragments to be executed simultaneously. This operating software thus allows operations performed on the viewing means, the sound playback means as well as the handling of  
10 telecommunications links through the distribution network, to be executed concurrently, in an orderly fashion and avoiding any conflict. Moreover, this software has large flexibility.

This library includes, as subsequently shown, an  
15 interface for programming the touchscreen (153) associated with each graphic module which will be described subsequently and including, according to the associated graphic module, functions for reacting to an activation through one or several external events. The  
20 external events come from the user and are processed by the touchscreen interface in order to be interpreted by the operating system as the equivalent of a mouse event. Thus, touching an area is recognized by the interface of the touchscreen as a press down event (down), the  
25 movement of the finger on the screen as a drag event (drag), removal of the finger from the screen as the release of a button (up). Each event interpreted by the associated touchscreen interface, is then delivered to the relevant module in order to cause, either a change in  
30 the execution of the program, for example by calling another graphic module, or a change in the physical parameters of the machine causing these parameters to be

stored and subsequently used by electronic components associated with this parameter.

The compressed digitized audiovisual data are stored in the storage means (21).

5 Each selection is available according to two digitized formats: hi-fi quality or CD quality.

Before describing and interpreting the flow chart in Fig. 2, it is essential to note that, although all these separately described modules seem to be used in a sequential way, the specific tasks of these modules are actually executed simultaneously in an environment using the multitask operating system. Therefore, the flow chart shows the specific operations that a module should carry out and does not show any jump to this module which would  
10 invalidate all the operations carried out by the other modules.  
15

The first module, referenced as SSM, is the module for starting the system. This module provides only one service, therefore it is automatically loaded upon  
20 powering up the system. If the system is started with a correct record number, then it directly enters the "in service" mode of the module referenced as RMM.

The RMM module is the "in service" mode module, which is the operating mode in which the system enters as soon  
25 as its record number is validated. In this mode, the system is ready for handling any request which may be triggered by various predefined events, as for example:

- customers touching the screen: when a customer or user touches the screen, the system transfers the control  
30 of its foreground session to the CBSM module of the customer selection and operating mode;
- receiving a remote control signal: when a command

is received, it is processed in a background session by the SMN system command module while the foreground session remains available for other interventions;

- occurrence of a timeout showing the inactivity of the system: when one of the various timers is activated, control is temporarily given to the IRM inactivity routine module for processing.

The system remains in the "in service" mode until one of the events described above occurs.

- Thus, the RMM module of the "in service" mode includes a module for display of graphic for example corresponding to that of Fig. 8. This graphic module enables a window (80) to be displayed, for example including the display of the comment, "execution in progress", in an area (81).

- A second window (82) of a smaller size and included in the first window (80) allows the album jacket to be graphically illustrated during execution. The title of the album appears in a first alphanumeric pad (83), and the name of the album in a second alphanumeric pad (84). The name of the artist or of the group is mentioned in a third alphanumeric pad (85). These pieces of information are issued from the database (16), from the identification number for the title and the information stored in the database according to the access processes corresponding to Fig. 7, explained subsequently. Finally, this window (80) includes an area (86) in which appears the comment "press" or "touch me" prompting the user to put his/her finger on the screen so that the RMM module detects the position of the finger on any area of the screen via the touch screen interface module and transfers control of its session to the CBSM customer

browsing selection mode module.

If the jukebox is no longer executing the song, and when the songs in the queue have run out, the screen may be used for displaying promotional events or for  
5 displaying sample selections inputted into memory by the manager of the jukebox. These selection samples have the purpose of prompting the customers to listen to the entire song.

The IRM module is the inactivity routine mode. This  
10 module contains routines fulfilling predetermined functions such as the display of the cover of an album, the transmitting of portions of musical pieces present in the system, the playing back of complete selections for internal promotional purposes, audio playbacks for  
15 external promotional purposes, vocal promotional announcements for new musical selections, switch back to an auxiliary source to which the system may resort when it is inactive and when a predefined, but adjustable period of time, corresponding to a timeout, has elapsed.

20 The programming interface module (153) for the touch-screen (33) includes various modules. Each of the sub-modules corresponds to one of the graphic modules mentioned above.

The CBSM module is the module for the customer  
25 browsing and selection mode. Access to this module is triggered from the "in service" mode of Fig. 8, when the customer touches the screen. With the display, the user is able to view a selection menu provided in Figs. 9 or 10 for powerful browsing, and for helping him/her in  
30 his/her choice of musical selections.

Fig. 9 illustrates a first alternative selection menu in which the monitor screen enables a window (90) to be

displayed, within which appears an agenda for example provided with an index (96).

A window for viewing the album jacket (92) appears on one of the pages of the agenda, on the other page appears  
5 the list (94) of the titles appearing in the album on the one hand, and an alphanumeric pad (95) appears on the other hand for triggering execution of the recording selected beforehand after one of the titles of the list (94) has been touched, that makes it stand out, for  
10 example through highlighting. At the bottom of the screen, appears a banner (93) in which a plurality of small windows (931-934) each allowing a different album jacket belonging to the same musical group or to the same singer to be viewed. With the directional arrows (930,  
15 935), the different non-viewed jackets available for the same group or singer may be scrolled upwards (930), or downwards (935) in the small windows, by lightly touching these arrows.

In another embodiment of the interface illustrated in  
20 Fig. 10, the latter is divided in two sub-windows, a first sub-window (100A) which includes a plurality of small sub-window areas (101-106) in which a different image from each jacket containing an album is illustrated in each sub-window (101-106). The other available jackets  
25 may be examined with scrolling arrows, not shown and identical to those (930, 935) of Fig. 9. Selection criteria appear in a further area of this window (100A), for example per new releases (111), popular artists (112), artist names (1113), albums (114). The other half  
30 (100B) of the main window is divided into two portions, a first portion including three selection criteria: a first one per category (109), a second one per index (108), and

a third one per era(110). In the second portion of the second half (1008), the user has the possibility of selecting decennial periods displayed in the alphanumeric pads (1071-1076) each displaying a decade so as to cover the last half-century per decade. Thus, as it may be understood, the touchscreen interface software associates with each of the areas of the touchscreen corresponding to a display area, a selection criterion used as a search criterion in the database for accessing graphic or alphanumeric or audio information available in the latter. According to needs, an increment of the size of the number of viewable windows at a time on the screen is associated with this criterion, for selecting, e.g., the number of graphical pieces of information corresponding to the maximum number of viewable jackets on the screen.

There again, a programming interface module (153) for the touchscreen (33) is associated therewith so that a light touch of the different areas corresponding to the action areas or scrolling arrows is properly interpreted by this interface module (153). Similarly, each graphic module will include a module which will subsequently allow the database (16) to be utilized correspondingly, which will be described in conjunction with Fig. 7. This utilization of the database enables e.g. the available images of an album and various popular music artist names to be successively displayed in each of the display pads (101-106, or 931-934), upon lightly touching the "popular" button.

The multitask operating system is one of the essential components for providing simultaneous execution of multiple code fragments and for handling priorities between the different tasks which are woken up.



This multitask operating system is organized, as illustrated in Fig. 3, around a kernel including a module (11) for resolving the priorities between the tasks, a task supervisor module (12), a sterilization module (13) and a communications process module (14). Each of the modules communicates with the interfaces (15) for programming applications and the database (16). There are as many programming interfaces as there are applications. Thus, module (15) includes a first programming interface (151) for the key switch (32), a second programming interface (152) for the remote control (31), a third programming interface (153) for the touchscreen (33), a fourth programming interface (154) for the keyboard (34), a fifth programming interface (155) for the payment mean(35), a sixth programming interface (156) for the sound control circuit (5), a seventh programming interface (157) for the video monitoring circuit (6) and a last interface (158) for the telecommunications control circuit (4).

Five tasks having a decreasing priority order are handled by the kernel of the operating system, the first one (76) for the video inputs/outputs has the highest priority, the second one (75) of priority level two concerns sound, the third one (74) of level three, telecommunications, the fourth one (73) of level four, the interfaces and the fifth one (70) of level five, the handling. These orders of priority are taken into account by the module (11) for resolving the priorities as soon as a task appears or disappears. Thus, as soon as a video task appears, the other tasks being executed are suspended, priority is given to this task and all the resources of the system are allocated to the video task.

On output, the video task (76) has the purpose of alternately unloading the video files from the mass storage (21) towards one of the two buffers (66, 67), while the other buffer (67), (66) respectively, is used  
5 by the video controller circuit (6) for producing the display after decompressing the data. On input, the video task (76) has the purpose of transferring data received in the telecommunications buffer (46) towards the mass storage (21) and to one of the two buffers (26) of the  
10 mass storage (21). The sound task (75) operates similarly, on input between the telecommunications buffer (46) and the buffer (26) of the mass storage (21 on the one hand, and on output between the buffer (26) of the mass storage (21) and one of the two buffers (56, 57) of  
15 the sound controller circuit (5) on the other hand.

The task supervisor module (12) will now be described in conjunction with Fig. 4. This module performs, in the order of priority, a first test (761) in order to determine whether the video task is active, i.e. whether  
20 one of the video buffers (66,67) is empty. If the answer is negative, the task supervisor module proceeds with the following test which is a second test (751) in order to determine whether the sound task is active, i.e. whether one of the buffers (56, 67) is empty. In the case of a  
25 negative answer, a third test (741) determines whether the communications task is active, i.e. whether the buffer (46) is empty. After an affirmative answer to one of the tests, the task supervisor module (12) fills, in step (131), the queue (13) for memory access requests and  
30 executes, in step (132), this write or read request between the mass storage (21) and the buffer corresponding to the active task, then loops back to the

first test. When the test (741) on the activity of a communication is affirmative, the supervisor (12) performs a test (742) in order to determine whether information is to be read or written into memory. If yes,  
 5 the write or read request is placed into the queue in step (131). In the opposite case, the supervisor determines in step (743) whether it is a transmission or a reception and in the case of a transmission, it sends, in step (744), the information block to the central  
 10 server. In the case of a reception, the supervisor checks, in step (746), whether the kernel's buffers are free for access and in the affirmative, sends a message to the central server in order to accept receipt of a data block in step (747), in the negative, it loops back  
 15 to the initial test. After receiving a block, an error check (748) of the cyclic redundancy CRC (Cyclic Redundant Check) type is performed. The block is rejected in step (740) in the case of an error, or accepted in the opposite case, by sending a corresponding message to the  
 20 central server notifying that the block with a determined number is rejected or accepted, then it loops back to the initial test. If no other upper level task is active, the supervisor performs, in step (731 or 701), the processing of the interface or handling tasks, then loops back to  
 25 the initial test.

The detection of an active or ready task is performed, as illustrated in Fig. 5 by a test (721-761) on each of the respective hardware or software buffers (26) of the hard disk, of the interface, (46) of the  
 30 telecommunications, (56 and 57) of the sound, (66 and 67) of the video, respectively, which are associated with each of the respective controller circuits (2, 3, 4, 5,

6) of each of the hardware devices associated with the central processing unit (1). With test (721), it is possible to see whether the data are present in the input/output memory buffer of the disk; with test (731),  
 5 it is possible to see whether the data are present in the hardware or software memory buffers of the client interface device; with test (741), it is possible to see whether the data are present in the software or hardware memory buffers of the telecommunications device; with  
 10 test (751), it is possible to determine whether the data are present in the hardware or software memory buffer for sound; with test (761), it is possible to see whether the data are present in the hardware or software memory buffers of the video device. If one or more of these  
 15 buffers are filled with data, the supervisor (12) sets the respective status buffer(s) (821) for the hard disk, (831) for the interface, (841) for the telecommunications, (851) for the sound, (861) for the video corresponding to the hardware, to a logical state  
 20 reflecting activity.

In the opposite case, the supervisor's status buffers are reset in step (800) to a value reflecting inactivity.

The system's operating status is kept on the hard disk.

25 Every time a notable event is triggered, the system immediately records it on the disk.

Thus, in the event that an electrical failure or even a breaking of the equipment occurs, the system will be able to restart exactly where it was interrupted.

30 Events which generate the backup of the operating status are:

- money input (addition of credits);

- addition of a selection in the waiting queue;
- end of a selection (changing the selection presently being played).

The file is in a machine format only legible by the  
5 unit and does not take up more than 64 bytes.

Because of the task handling mode on the one hand, assigning the highest priority to the video task, of the presence of the hardware or software buffers on the other hand assigned to each of the tasks in order to  
10 temporarily store data and of the presence of the status buffers relative to each task on the other hand, it has been possible to have all these tasks handled by a single central processing unit with a multitask operating system which provides video display capabilities, i.e. moving  
15 images as opposed to a graphic representation in which the information to be processed is less complex. This use of a video presentation may also be made without penalizing the processing of sound because the sound controller circuit (5) includes buffers of sufficient  
20 size for storing a sufficient amount of compressed data so that, during the processing of sound, the video data may be transferred to one of the video buffers (66, 67) while waiting for the next sound data transfer.

Further, with the multitask operating system which  
25 includes a library containing a set of tools and services, the utilization may be facilitated very significantly, because of its integration into the storage means and the large flexibility which is thereby provided. In particular, thanks to this, a multimedia  
30 world may be generated by handling simultaneously, in a simple and efficient way, the playback of sound, the display of images or graphics, video animation and the

interface with the user. The database (16) is made up of several bases, as illustrated in Fig. 7.

A first base (161) relating to the titles of the audiovisual pieces, a second one (162) on artists, a third one (163) on labels (Records companies), a fourth one (164) on albums, a fifth one (165) on royalties. The first base (161) includes a first piece of information (1611) giving the title of the piece, a second piece of information (1612) giving the identification of the product, this identification being unique. With a third piece of information (1613), the category may be known, i.e., jazz, classical, light music, etc. With a fourth piece of information (1614), the date of the update may be known. With a fifth piece of information (1615), the length of time in seconds required for executing the piece of music may be known.

The sixth piece of information (1616) is a link with the royalty's base.

The seventh piece of information (1617) is a link of the album. The eighth piece of information (1618) is a link with one of the labels "Records companies".

The ninth piece of information (1619) gives the purchase cost for the manager of the jukebox.

The tenth piece of information (1620) gives the royalties' cost for each execution of the piece of music.

The eleventh piece of information (1610) is a link with the artist base. This link is formed by the artist's identity. The artist database includes, in addition to the artist's identity, formed by piece of information (1621), a second piece of information (1622) formed by the name of the artist or the name of the group.

The album information base includes a first piece of

information which is the identity of the album (1641) which forms the link with the seventh piece of information (1617) from the title base. A second piece of information (1642) is the title, a third piece of information (1643) is formed by the date when the album was updated, and a fourth piece of information (1644) is formed by a label identity (records company).

When an audio or audiovisual selection is being executed, a light touch of the screen causes the display of a number of different albums of the same singer or group, available in the database, corresponding to the number of display windows or pads. If the number of albums is greater than the number of windows, the user views them by touching the scanning arrows. When the jukebox is not executing any musical piece or an audiovisual selection, the program at regular intervals triggers the displaying of batches of images of different jackets available in the database through random selection or through other selection criteria as determined by a program. By lightly touching a screen area associated with a selection criterion, a database search program is triggered for searching data corresponding to the criteria, so that these data may subsequently be sent to the display handling software in order to provide the display, in each of the windows, with the images corresponding to the selected data on the basis of the activated criterion.

Any changes within the understanding of one skilled in the art may also be part of the invention. Thus, when dealing with buffers, it should be recalled that the latter may be present, either physically on the circuit to which they are assigned, or produced through software

by reserving storage locations in the memory of the system.



CLAIMS

1. A method for selecting a recording on an audiovisual playback system, characterized in that it consists of displaying a plurality of windows on a screen, sending to each of the windows the representative information of an image of the album jacket associated with each window and the corresponding musical recording of which is stored in the mass storage of the playback system by selecting the data required for the viewing, and in that each area of a window is associated through the interface software of the touchscreen, with the addresses for storing the information from the database relating to the image of the jacket, the album of which is illustrated in the window touched by the user.
2. The method for selecting a recording on an audiovisual playback system according to claim 1, characterized in that, a light touch of one of the windows causes the display of the corresponding album jacket with the different selectable titles in this album, as well as a banner including several graphic display pads, wherein images of the album jackets of the same singer, available on the audiovisual playback system are displayed.
3. The method for selecting a recording on an audiovisual playback system according to claim 1 or 2, characterized in that the banner or an area of the screen includes arrows at each end for scrolling, in one direction or in the other, the other images of the non-viewable album jackets on the display windows or pads.

4. The method for selecting a recording on an audiovisual playback system according to any of claims 1 to 3, characterized in that the window area including the plurality of windows enables each window of an album jacket to be displayed and a window area may be associated therewith, which includes representations of the selection criteria which enable the user by lightly touching the screen, to apply the displayed selection criterion, as a search criterion on the system's database.

5. The method for selecting a recording on an audiovisual playback system according to claim 4, characterized in that the selection criterion is formed by the different last decades.

6. The method for selecting a recording on an audiovisual playback system according to claim 4, characterized in that the selection criterion is formed by the category.

7. The method for selecting a recording on an audiovisual playback system according to claim 4, characterized in that the selection criterion is formed by an index.

8. An audiovisual playback system providing implementation of the method according to claim 1, characterized in that the audiovisual playback system developed around a microprocessor device associated with a payment device and including mainly mass storage means

for storing i.a. under a compressed digital format, the visual and sound recordings to be utilized on the one hand, associated via interfaces, with viewing digital means and sound playback digital means on the other hand, wherein a video monitor is associated with a touchscreen itself associated with a interface program in order to react to the contact of a user on the touchscreen in order to express these contacts for the operating system as mouse events, which trigger, via an integrated tool and service library, the change in execution of one of the modules of the interface program, characterized in that each display area of the video monitor associated with the touchscreen, is associated with a search criterion in the database for audio or visual representation data corresponding to the information displayed on the screen.

9. The audiovisual playback system according to claim 8, characterized in that the search criterion is the selection of a number of albums corresponding to the number of viewable windows on the screen and of the associated graphic information.

10. The audiovisual playback system according to claim 9, characterized in that the scanning through the database is performed by incrementing the size of the number of viewable windows on the selection screen.

11. The audiovisual playback system according to claim 9, characterized in that the selection criterion corresponds to the category.

12. The audiovisual playback system according to claim 9, characterized in that the selection criterion corresponds to the type of music.

**ABSTRACT****METHOD FOR SELECTING A RECORDING ON A DIGITAL AUDIOVISUAL  
PLAYBACK SYSTEM AND SYSTEM FOR IMPLEMENTING THE METHOD**

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The present invention relates to a method for selecting a recording on an audiovisual playback digital system and to the system for implementation of the method.

5       The method for selecting a recording on an  
audiovisual playback system is characterized in that it  
consists of displaying a plurality of windows on a  
screen, of sending to each of the windows representative  
information of an image of the album jacket associated  
10 with each window and the corresponding musical recording  
of which is stored in the mass storage of the playback  
system by selecting the data required for viewing, and in  
that each area of a window is associated by the interface  
software of the touchscreen, with the addresses for  
15 storing the information from the database relating to the  
jacket, the album of which is illustrated in the window  
touched by the user.

Fig. 1 ( à laisser telle quelle)

Fig 2

|  |   |
|--|---|
| Si validation d'enregistrement<br>demandée | If validation of recording was<br>requested |
| Si crédit disponible                       | If credit is available                      |

5 Fig 3

|                       |                     |
|-----------------------|---------------------|
| Application           | Application         |
| Module temps réel     | Real time module    |
| Noyau multi-processus | Multiprocess kernel |
| Matériel              | Equipment           |
| Noyau                 | Kernel              |

Fig.4

|                     |                 |
|---------------------|-----------------|
| Debut               | Start           |
| Lecture ou écriture | Read or write   |
| Tampon du noyau     | Kernel's buffer |
| Libre d'accès?      | Access free?    |
| Erreur              | Error           |
| Acceptation         | Acceptance      |
| Refus               | Rejection       |
| Oui                 | Yes             |
| Non                 | No              |

Fig.5

|       |       |
|-------|-------|
| Debut | Start |
| Fin   | End   |

10

Fig.7

|       |       |
|-------|-------|
| Titre | Title |
|-------|-------|

|         |         |
|---------|---------|
| Artiste | Artist  |
| Label   | Label   |
| Album   | Album   |
| Royalty | Royalty |

Fig. 8,9,10 ( à laisser telles quelles)

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